



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Sullivan et al.

For : **IMPROVED MULTI-LAYER GOLF BALL**

Serial No. **RECEIVED** : ~~08~~ 09/926,872

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Group Art Unit **TECHNOLOGY CENTER R3700** : 3711

Examiner : R. Gorden

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, DC 20231, on 5/21/01

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(SIGNATURE)

Cleveland, Ohio 44114-2518
May 21, 2001

APPELLANT'S REPLY BRIEF UNDER 37 C.F.R. 1.193

Attention: Board of Patent Appeals and Interferences
Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This is in reply to the Examiner's Answer mailed March 22, 2001 in the above-captioned appeal.

In the Answer mailed March 22, 2001, the Examiner acknowledged that certain issues under § 112, first paragraph were remedied.

In that Answer, the Examiner also noted that the provisional rejection under § 101 had been overcome.

And, in that Answer, the Examiner further noted that a provisional obviousness-type double patenting rejection had been overcome by a previously filed Terminal Disclaimer.

This Reply addresses three assertions by the Examiner concerning

the sole rejection at issue under § 112, first paragraph.

First, the Examiner maintained the rejection of claims 1 and 3-8 for their recitation of specific gravity of the core being less than 1.4. The Examiner acknowledged disclosure in the specification of specific gravities of 1.47 and 1.17. However, the Examiner is of the view that additional support must be present.

Appellants respectfully submit that the present specification reasonably conveys to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. Apparently, the Examiner demands a literal disclosure of the exact range of specific gravity claimed. This is not necessary under § 112. In fact, it is quite clear to an individual skilled in this field of art that the pending claims encompass aspects besides the particular preferred embodiments described in the specification. The present specification itself even notes this:

The invention has been described with reference to the preferred embodiment. Obviously, modifications and alterations will occur to others upon reading and understanding the proceeding detailed description. It is intended that the invention be construed as including all such modifications and alterations insofar as they come within the scope of the appended claims or the equivalents thereof.

Page 83 of specification.

Notwithstanding this, the Examiner, in his Answer, did not accord any weight to the numerous and extensive disclosure of various core weights and diameters disclosed in the present specification. A calculation of core density or specific gravity may readily be made.¹

¹Specifically, a wide array of core diameters are disclosed: 1.2 inches (3.048 cm) (p. 47); 1.6 inches (4.064) (p. 47); 1.2 - 1.6 inches (3.048 - 4.064 cm)(p. 47); 1.0 inch (2.54 cm) (p. 47); 2.0 inches (5.08 cm) (p. 47); 1.0 - 2.0 inches (2.54 - 5.08 cm) (p. 47); 1.545 inches (3.9243 cm) (p. 61 and 72); 1.43 inches (3.6322 cm) (p. 72); and 1.47 inches (3.7338 cm) (p. 74).

These diameters yield a range of core volumes from about 8.58 cm³ (for a 1.0 inch diameter core) to 68.64 cm³ (for a 2.0 inch diameter core).

A wide array of core weights are disclosed: 25 g (p.46); 40 g (p.46); 25 - 40 g (p.46); 30 g (p.46); 30 - 40 g (p.46); 36.5 g (p. 61); and 32.7 g (p. 74).

These core volumes and weights yield a wide array of core densities (or specific gravities) from about 0.36 g/cm³ (based on a core weight of 25 g and a volume of 68.64 cm³) to about 4.66 g/cm³ (based on a core weight of 40 g and a volume of 8.58 cm³).

Second, the Examiner maintained the § 112 rejection for the specific gravity of the intermediate layer being less than 1.2. Here, Appellants previously cited four specific disclosures in the specification of specific gravities for the intermediate layer. The Examiner attempted to ignore two of the four disclosures on grounds that the noted specific gravities were not of the intermediate layer but instead, were of the actual ionomers used therein.

The Examiner's attempt to ignore those disclosures fails because the specific gravity of an intermediate layer "formed of an ionomer resin base composition" (as recited in claim 1) would be the same or approximately so as the specific gravity of the ionomer used in that layer.² Restated, claim 1 recites an intermediate layer having a specific gravity of less than 1.2. Appellants cited four references in the specification that reasonably convey that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner's demand that literal support be in the specification is simply not the proper test under § 112.

Furthermore, a wide array of weights and thicknesses for cores and intermediate layers are disclosed throughout the specification. A calculation of

²Appellant recognizes the possibility that the intermediate layer could include density adjusting fillers such that its specific gravity would be different than that of the ionomer used in that layer. However, claim 1 simply recites that the intermediate layer have a specific gravity of less than 1.2.

intermediate layer density or specific gravity may then readily be made.³ Clearly, the present specification reasonably conveys that the inventors, at the time the application was filed, had possession of the claimed subject matter.

Third, the Examiner asserted that the JIS-C hardness of the intermediate layer as being from 85 to 89.9 was not sufficiently described in the specification.

Appellants previously referred to a comparison chart provided in ASTM D-2240 (submitted with Appellant's Appeal Brief) which indicates that a value between 80 and 90 on the Shore C scale corresponds to a value of about 60 on the Shore D scale. As previously noted, the present specification discloses

³Specifically, a wide array of intermediate layer thicknesses are disclosed: 0.01 inches (0.0254 cm) (p. 13); 0.10 inches (0.254 cm) (p. 13); 0.01 - 0.10 inches (0.0254 - 0.254 cm) (p. 13); 0.03 inches (0.0762 cm) (p. 13); 0.07 inches (0.01778 cm) (p. 13); 0.03 - 0.07 inches (0.0762 - 0.1778 cm) (p. 13); 0.05 inches (0.127 cm) (p. 13); 0.05 - 0.10 inches (0.127 - 0.254 cm) (p. 13); 0.0375 inches (0.09525 cm) (p. 63); 0.0675 inches (0.17145 cm) (p. 61); and 0.09 inches (0.2286 cm) (p. 72).

These thicknesses are added to the previously noted range of core sizes to yield a wide range of volumes for the intermediate layers. The calculation is performed by identifying the core diameters as described above. The intermediate layer thickness is then added twice (once for each side of the golf ball) to the core diameter to establish a diameter for the core plus the intermediate layer. Once this diameter is established, a total volume for the core and intermediate layer can be calculated. Finally, the volume of the core (previously determined) is subtracted from the core plus intermediate layer figure, which results in the determination of the volume of the intermediate layer.

The diameter of the core plus the intermediate layer (the inner cover layer) is disclosed throughout the application. Specifically, values disclosed include: 1.48 inches (3.7592 cm) (p. 13); 1.66 inches (4.2164 cm) (p. 13); 1.50 inches (3.81 cm) (p. 13); 1.70 inches (4.318 cm) (p. 13); 1.50 - 1.70 inches (3.81 - 4.318 cm) (p. 13); 1.25 inches (3.175 cm) (p. 48); 1.60 inches (4.064 cm) (p. 48); 1.25 - 1.60 inches (3.175 - 4.064 cm); 1.67 inches (4.2418 cm) (p. 50); 1.50 - 1.67 inches (3.81 - 4.2418 cm) (p. 50); 1.61 inches (4.0894 cm) (p. 72); 1.57 inches (3.9878 cm) (p. 74); 1.620 inches (4.1148 cm) (p. 64); 1.63 inches (4.1402 cm) (p. 64); 1.64 inches (4.1656 cm) (p. 64); and 1.68 inches (4.2672 cm) (p. 64).

These diameters yield a wide array of core plus intermediate layer volumes from about 16.758 cm³ (for a 1.25 inch diameter core plus intermediate layer) to 42.155 cm³ (for a 1.70 inch diameter core plus intermediate layer).

Further, a wide array of core plus intermediate volumes are disclosed based on the layer thickness of the intermediate layer and the diameter of the core yielding volumes from about 9.105 cm³ (for a core with a diameter of 1.0 inches with an intermediate cover thickness of 0.01 inches) to about 91.362 cm³ (for a core with a diameter of 2.0 inches with an intermediate cover layer thickness of 0.1 inches).

Subtracting out the volume of the cores yields the intermediate layer volume range which is from about 0.525 cm³ (for a core with a diameter of 1.0 inch with an intermediate cover layer thickness of 0.01 inches) to about 22.722 cm³ (for a core with a diameter of 2.0 inches and an intermediate layer thickness of 0.1 inch).

These intermediate layer volumes yield a wide array of inner cover layer densities (or specific gravities) in conjunction with a typical weight of the layer, 5.7 g (as disclosed on p. 74). The intermediate layer densities range from about 10.857 g/cm³ (based on an intermediate layer weight of 5.7 grams and a volume of 0.525 cm³) to about 0.251 g/cm³ (based on an intermediate layer weight of 5.7 grams and a volume of 22.722 cm³).

preferred Shore D hardnesses for the inner cover layer of at least 60, 68, and 70. Accordingly, these disclosures correspond to disclosures of Shore C in the range of about 80 to 90. The present specification reasonably conveys that the inventors, at the time the application was filed, had possession of the claimed invention.

The Examiner also demanded literal support for the recitation in claim 6 for a difference in specific gravities between the core and the intermediate layer of 0.1 to 0.5. The Examiner acknowledged that "values with the claimed range have been shown but the entire range is not disclosed."

Appellants respectfully submit that the Examiner's requirement that "the entire range" must be disclosed is contrary to established law. As previously noted, the present specification provides numerous disclosures of specific gravity differences within this recited range. Disclosure of the exact and entire range is not necessary. All that is necessary is that the specification reasonably conveys that the inventors, at the time the application was filed, had possession of the claimed invention.

Furthermore, the specification discloses numerous specific gravities of the core and intermediate layer, which when compared to each other, provide support for this claim recitation.⁴

In summary, the Examiner is imposing a significantly harsher and more stringent standard than what the Court of Appeals for the Federal Circuit has stated is necessary. The Examiner's "literal support" standard is not the proper standard. Accordingly, the present rejection must, as a matter of law, be reversed.

In view of the foregoing, all pending claims 1 and 3-8 are submitted to be in condition for allowance.

⁴As previously noted on page 61, the specification discloses a golf ball with a core having a specific gravity of about 1.17 and an inner cover with a specific gravity of about 0.95. The difference in the specific gravities in this example is 0.22, which is clearly within the range claimed in claim 6. Furthermore, the wide ranges of specific gravity for the core and the intermediate layer readily provide support for this claimed range of differences.

Respectfully submitted,

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